

Propane not a compatible refrigerant

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The Lafayette Fire Department is warning people not to purchase a product that is being marketed as a refrigerant replacement.

An HVAC technician contacted LFD after seeing the propane and butane-based refrigerant for sale in a local supply store.

“Propane makes a very good refrigerant, but in the U.S., our equipment isn’t built to use it,” fire inspector Pat Grimes said.

“There’s a huge potential of burning or killing somebody with this.”

Frost 22A Refrigerant is the product.

“It should not be used as a replacement in a refrigerator, freezer or air conditioner, and it should not be mixed with any other refrigerant,” Grimes said.

Fire investigators bought a container and had it tested, which revealed the main components are highly flammable gases.

The tests also showed there is no odor added to the propane and butane, so a consumer wouldn’t know if there was a leak.

Because propane is heavier than air, it sinks to the lowest point, and collects until there is an ignition point.

For example, the air conditioner outside Grimes’ house pipes refrigerant into a coil that sits on top of the furnace in his basement.

“If the refrigerant leaked off the coil down into the furnace, and if the furnace kicked on, that’s an ignition source,” he said.

It is dangerous to HVAC technicians who use torches to solder joints.

There is a huge potential for combustion, Grimes said, if there is propane or butane in an appliance and an HVAC technician doesn’t know it.

“In the U.S., unless you’re in an industrial setting, there’s no a place for this product,” he said.

“By law you must have a license to buy it and must reclaim any refrigerant removed from the appliance.”

Rural King, at 2500 Teal Road, is where Frost 22A was discovered.

The store manager cooperated, Grimes said, and moved the product outside after Lafayette fire inspectors told him state law prohibits containers of flammable gases from being stored indoors.

The Journal & Courier is waiting for a response from Rural King’s corporate office.

LFD has no authority to pull the product off the shelf, Grimes said, but he has notified the state fire marshal and U.S. EPA.

The bottom line for Grimes: "Call a professional to work on any type of refrigeration or air conditioning equipment."

Air conditioning product sparks concerns for fire dept.

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- Holly Campbell

LAFAYETTE, Ind. (WLF1) - Frost 22a is a propane-based refrigerant replacement used in air conditioners, and it's getting the attention of Lafayette Fire Inspector Pat Grimes.

"If you would put it in your system and you had a leak you could have a catastrophic event," Grimes said.

An event like a fire or explosion because it's made almost entirely of propane, which is highly flammable. Purdue professor of Mechanical Engineering Eckhard Groll said US air conditioning manufacturers use a substance called R-22, not propane like Frost 22a.

"They're not allowed currently to use propane in their residential air conditioning units and sell them on the market. It sound like there's a loophole for the replacement market," Groll said.

Homeowners can buy the propane-based replacement Frost 22a at Rural King in Lafayette. Korscho's Heating and Air Conditioning Service Manager David Kensinger said people have turned to propane because of the rising price of R-22.

"It's being used if there was a major repair to where the refrigerant needed to be replaced, or if you have a system low in refrigerant sometimes they will top off a system with that," Kensinger said.

What concerns Kensinger the most is that homeowners can install the flammable gas themselves without any training. Trained HVAC, or heating, ventilation, and air conditioning, technicians recapture R-22 when replacing refrigerants, but they don't have the equipment to handle propane.

"They have equipment that is supposed to capture that gas and reclaim it. Once you mix these gases they don't have the equipment to a flammable refrigerant," Grimes said.

"Our recovery equipment is not set up to recover a propane-based product that's in there," Kensinger said. "That's not safe. Really it's just a mess all around and could be very dangerous."

Another danger of homeowners doing it themselves is the possibility of a gas leak. The smallest spark could send your home up in flames.

"If you don't know what you're doing you can easily have some leaks during this process and again you're handling a highly explosive substance," Groll said.

"Even though it's on the shelf doesn't mean it's a good idea to use. It's always good to call an expert and find out if that's something you should do or not," Grimes said.

Grimes said with the help of Professor Groll they have contacted the EPA about the product. The EPA is still investigating the legality of Frost 22a.

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